8. MULTILINGUAL STUDENTS’ AGENCY IN MATHEMATICS CLASSROOMS

INTRODUCTION

During the last years we have noticed an increasing attention in mathematics education research addressing agency (see for example Andersson, 2011; Björklund Boistrup, 2010; Boaler & Greene, 2000; Grootenboer & Jorgensen, 2010; Grootenboer & Zevenbergen, 2007; Lange, 2010; Macmillan, 2004; Martin, 2000; Norén, 2010; Powell, 2004; Wagner, 2004, 2007). Why agency at this point in time? According to Ahearn (2001) one answer, that we agree with, is that there is a clear connection of interests in approaches that foreground practice on the one hand, and social movement on the other.

In mathematics education research the construct is used in different ways depending on the focus of the research and the authors’ theoretical standpoint (Andersson & Norén, 2011). Agency is an elusive construct that, according to the Blackwell Encyclopaedia of Sociology (Fuchs, 2007), is hard to pin down:

Agency is a fundamental and foundational category and puzzle in virtually all social sciences and humanities. Debates over agency have emerged together with these fields, and continue unabated into the present time, with no resolution or consensus in sight. While many agree that agency, action, and actor are basic in some sense, controversies persist over the definition, range, and explanatory status of these concepts. In addition, agency is contested because it connects to core questions in metaphysics, philosophy, and ethics, such as free will, moral responsibility, personhood, and subjective rights. Agency is tied to the legacy of liberal humanism that is part of the core of democratic citizenship. (p. 60)

In this chapter we explore the construct of agency theoretically. We then use it for analysis of social classroom interaction from a coordination of socio cultural and critical theoretical perspectives. As a starting point, we agree with Macmillan (2004) who takes the stance that students are thinking and feeling subjects acting in relationships with others. In line with van Lier (2008) we recognize that a key principle for learning depends on the student’s activities and initiatives, and more so than anything a teacher or a textbook transfers to a student. Teachers and fellow students are also needed in roles of mediating functions, but the emphasis for learning has to be on a student’s action, interactions and affordances (see also Skovsmose, 1994). As Andersson (2011, p. 215) wrote, “classrooms are spaces of socially
organised practices that, in different ways, shape how individuals are expected to, allowed to and/or required to act”. Thus we view agency as contextually enacted, and as a way of being and acting in relationships with others.

In relation to equity and accessibility we move away from theories determining multicultural and multilingual students as disadvantaged. We follow Powell (2004) who used the notions of agency and motivation to avoid deterministic theories and to resist deficiency explanations of African-American students’ failure in mathematics in the USA. Powell’s research study among 24 Grade 6 students gave “evidence of the mathematical achievement of students of colour as a by-product of their engagement of their agency” (p. 10). Powell found that the students initiated investigations, reasoned and progressed in building foundational understanding of certain mathematical ideas. To Powell, an understanding of agency “is particularly important since both failure and success can be located within the same set of social, economic, and school conditions that usually are described as only producing failure” (p. 6).

The purpose of this chapter is twofold. First, we theoretically elaborate on various interpretations of agency with the purpose to clarify differences between different theoretical interpretations of the theoretical construct. Second, we use empirical data from one multilingual mathematics classroom in Sweden with the aim of showing how agency works and how students’ agency varies in two different contexts. In the chapter we elaborate on different theoretical standpoints of agency. In order to coordinate the constructs of agency within socio cultural and critical theories, we start with describing them with support of networking theories, as suggested by Prediger, Bikner-Ahsbahs and Arzarello (2008). Our purpose is to show that coordination of socio cultural and critical perspectives can be useful for avoiding deficiency models of multilingual students, and how individual actions impacted by societal discourses in the mathematics classroom bring resources for learning mathematics.

THEORETICAL PERSPECTIVES FOR CONCEPTUALIZING THE CONSTRUCT AGENCY

Socio-Cultural Conceptualization of Agency

According to Ahearn (2001), agency can be seen as a “socioculturally mediated capacity to act” (p. 112). Drawing on a Vygotskian tradition, agency extends ‘beyond the skin’ because it is frequently a property of groups and involves ‘mediational means’ such as language and tools (Ahearn, 2001, p. 113). The definition of agency does not have an individual character, but relates to contextually enacted ways of being in the world; that is agency is always a social event. A theoretical perspective in line with Ahearn (2001) is the ecological definition elaborated by Biesta and Tedder (2006). These authors suggest that agency should not be understood as a capacity, and particularly not an individual’s capacity, but should always be understood in transactional terms; that is, as a quality of the engagement of actors with temporal-relational contexts of action (p. 18). They refer to an ecological understanding of agency, “i.e., an understanding that always encompasses